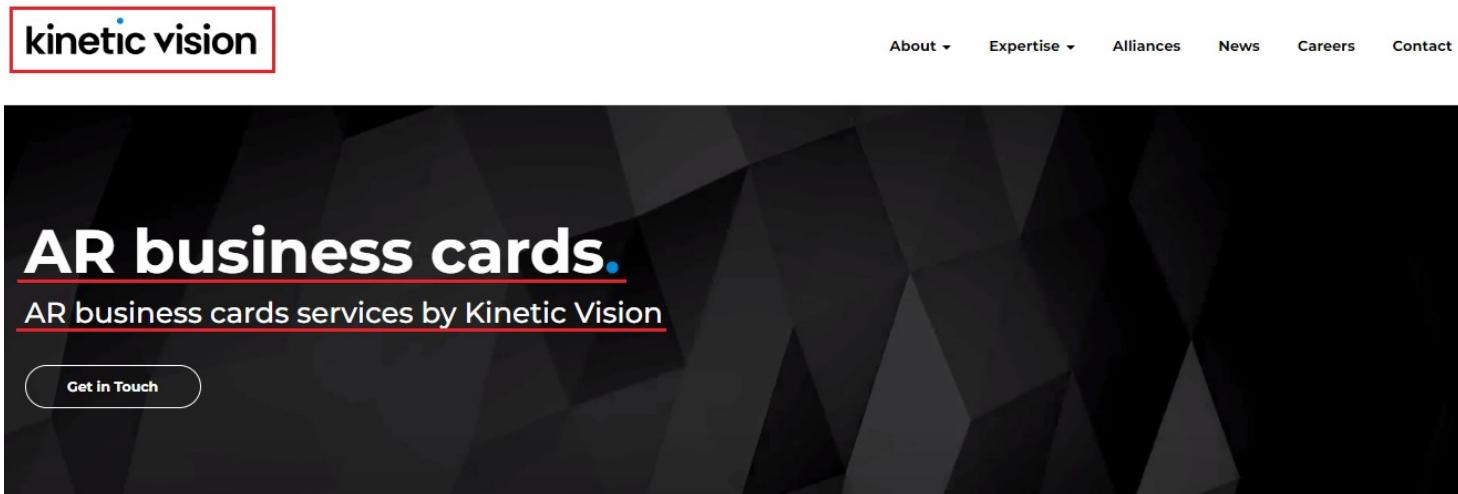


Exhibit 2

Method Claim: 1

US11080885	Kinetic Vision AR Business card (“The accused product”)
1. A method of providing an augmented reality experience with a user device, comprising:	<p>The accused product practices a method of providing an augmented reality experience with a user device (e.g., a smartphone with Kinetic Vision AR Experience app installed).</p> <p>As shown below, Kinetic Vision AR Business cards provide augmented reality experience to the user by overlaying 3D virtual elements on top of the business card.</p>  <p>The screenshot shows a dark, geometric background with the Kinetic Vision logo at the top left. The main text reads "AR business cards." in large, bold, white font, with "AR business cards" underlined. Below it, "AR business cards services by Kinetic Vision" is written in a smaller, white font. At the bottom, there is a white button with the text "Get in Touch".</p> <p>https://kinetic-vision.com/capabilities/ar-business-cards/</p>

Expertise > **Interactive** > AR business cards

Introducing AR Business Cards. The traditional business card hasn't changed much for hundreds of years, until now. Make your company, product or service stand out from the rest by powering them with three-dimensional objects, animations, video or combinations of all three. Instead of being tossed aside, your card will be alive with information, website links, and engaging experiences all targeted to do one thing: help you close the deal.

This video demonstrates how augmented reality can make your business card come alive with photorealistic three-dimensional representations of your product. One app can contain multiple targets and corresponding AR business card experiences. In the video below a race car and a passenger vehicle are shown as examples of static 3D augmented reality experiences. Below that is an example of an animated experience as it demonstrates a manufacturing process utilizing a pick-and-place robot to unpack bottles and place them on an processing line.

Interested in how your AR business card might work? Try it out for free with the [Kinetic Vision AR Experience app](#). Learn more about augmented reality at [Wikipedia](#).

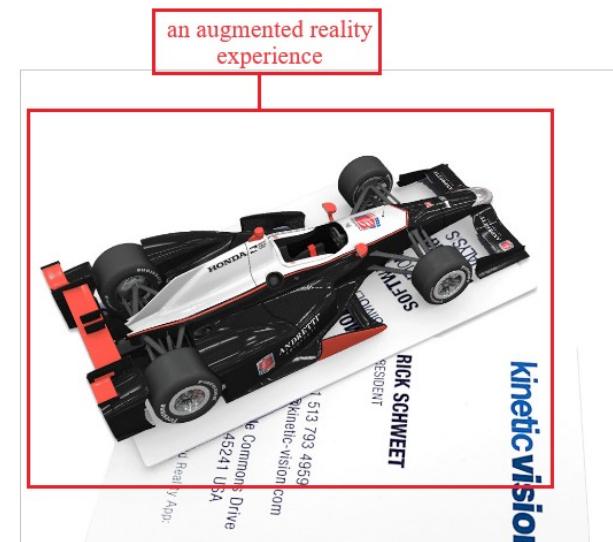
<https://kinetic-vision.com/capabilities/ar-business-cards/>

Expertise > **Interactive** > AR experience

Experience augmented reality on your own mobile device by downloading the Kinetic Vision AR Experience app from either the [Apple App Store](#) or [Google Play](#). It's free, has no ads, and doesn't require registration. Simply run the app and point the device camera at the target shown here, or [download](#) and print the targets.

The video below shows how the vehicles appear when running the app. A realistic experience is obtained from accurate target tracking and photorealistic real-time rendering.

<https://kinetic-vision.com/capabilities/kinetic-vision-ar-experience/>

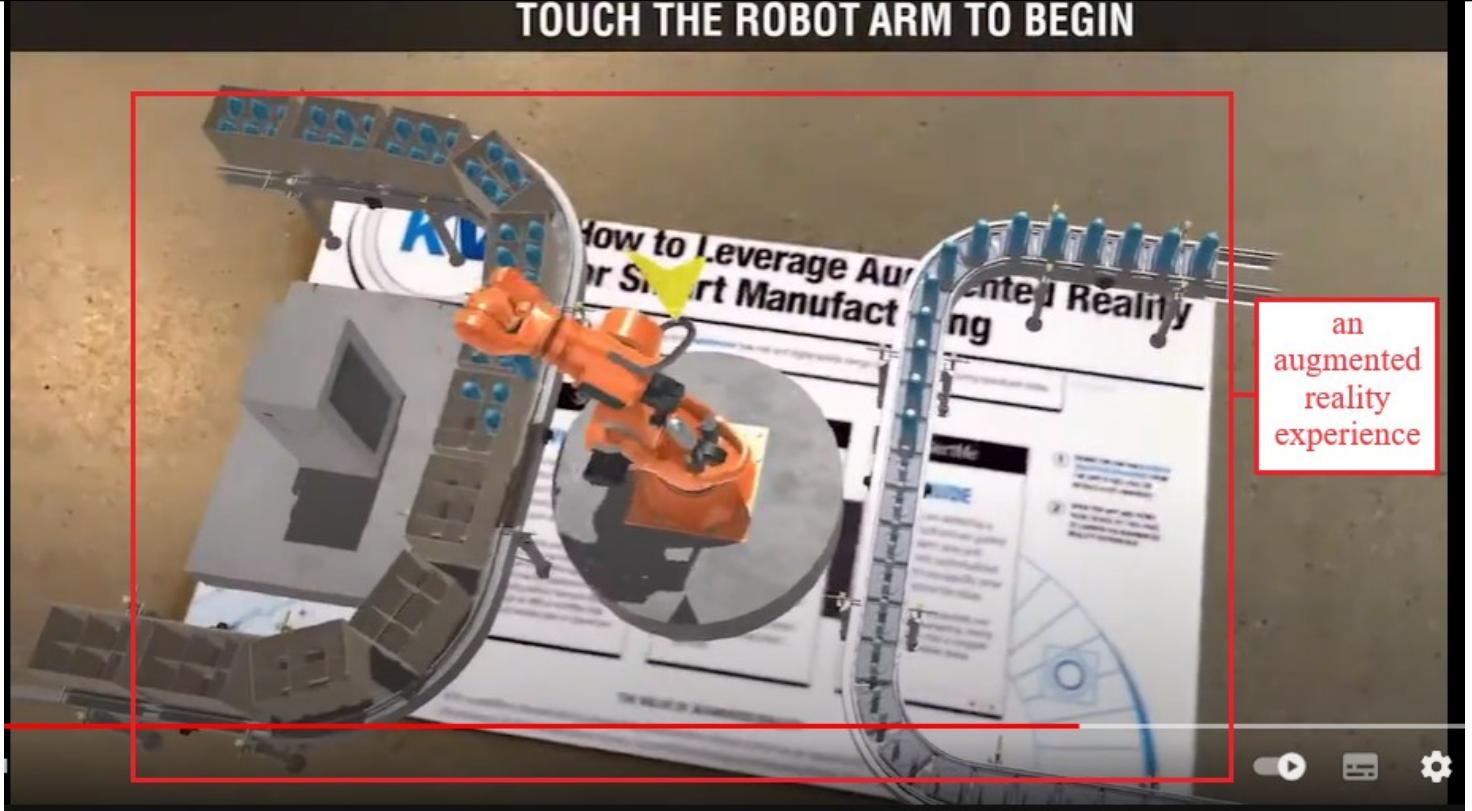


About ▾ Expertise ▾ Alliances News Careers





<https://www.youtube.com/watch?v=lj9yyqTVKr4&t=1s>

	 <p data-bbox="466 1003 1938 1036">https://www.youtube.com/watch?v=0XaBk2jM7yA</p>
receiving an input image of a physical environment from a camera included in or on the user device,	The accused product practices receiving an input image (e.g., an input image of the physical environment captured by the camera of the user device) of a physical environment from a camera (e.g., a camera of the mobile device such as smartphone, etc.) included in or on the user device (e.g., a smartphone with Kinetic Vision AR Experience app installed) wherein a digitally encoded marker (DEM) (e.g., a AR business card) is positioned at a marker location (e.g., a location of a physically printed AR business card) within the physical environment. <p data-bbox="466 1379 1938 1411">As shown below, a Kinetic Vision AR business card is placed on a surface within the</p>

wherein a digitally encoded marker (DEM) is positioned at a marker location within the physical environment;	<p>physical environment. A mobile device with Kinetic Vision AR experience app captures an image of the AR business card to overlay a virtual object on top of the AR business card.</p> <p>Expertise > Interactive > AR experience</p> <p>Experience augmented reality on your own mobile device by downloading the Kinetic Vision AR Experience app from either the Apple App Store or Google Play. It's free, has no ads, and doesn't require registration. <u>Simply run the app and point the device camera at the target shown here, or download and print the targets.</u></p> <p>The video below shows how the vehicles appear when running the app. A realistic experience is obtained from <u>accurate target tracking</u> and photorealistic real-time rendering.</p> <p>https://kinetic-vision.com/capabilities/ar-business-cards/</p>
--	--

Expertise > **Interactive** > AR business cards

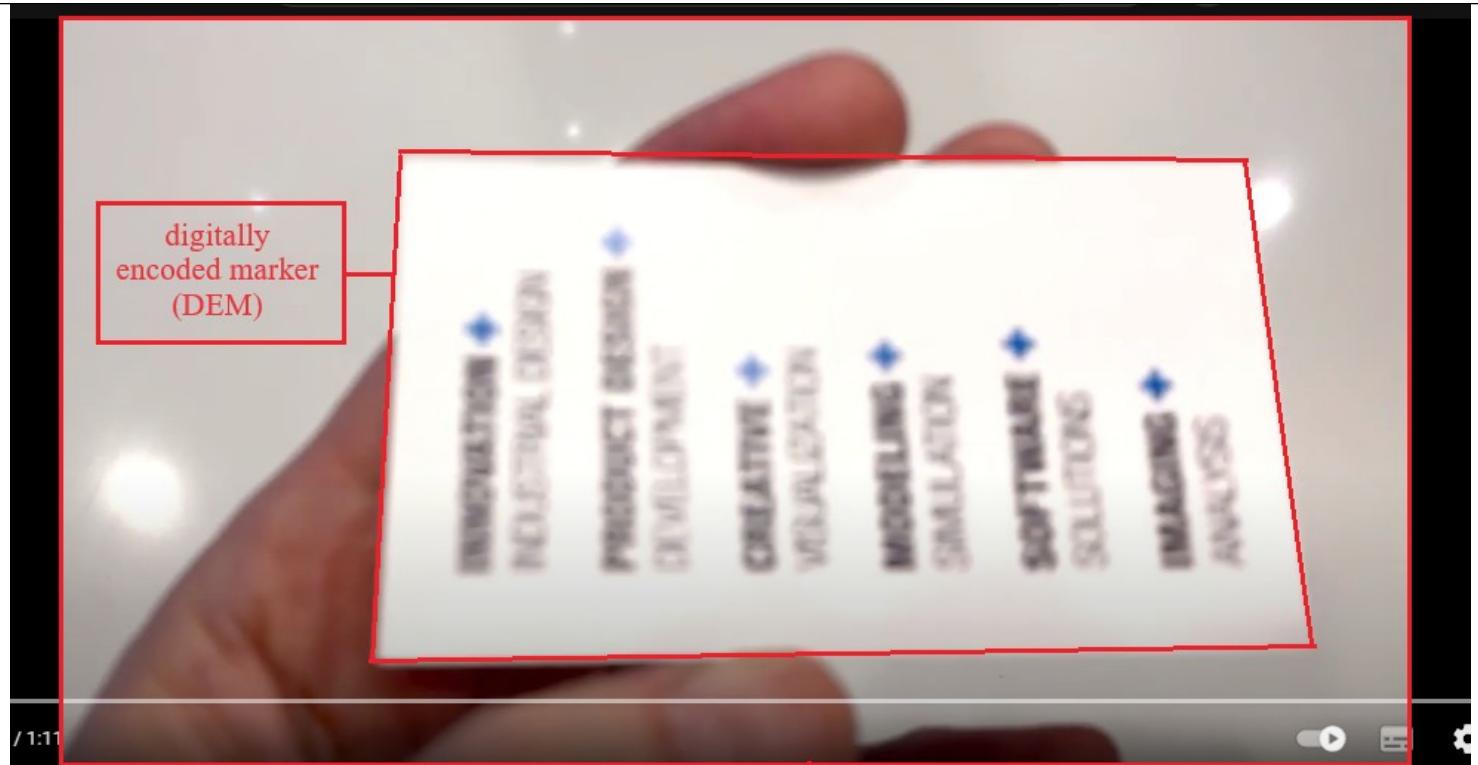
Introducing AR Business Cards. The traditional business card hasn't changed much for hundreds of years, until now. Make your company, product or service stand out from the rest by powering them with three-dimensional objects, animations, video or combinations of all three. Instead of being tossed aside, your card will be alive with information, website links, and engaging experiences all targeted to do one thing: help you close the deal.

This video demonstrates how augmented reality can make your business card come alive with photorealistic three-dimensional representations of your product. One app can contain multiple targets and corresponding AR business card experiences. In the video below a race car and a passenger vehicle are shown as examples of static 3D augmented reality experiences. Below that is an example of an animated experience as it demonstrates a manufacturing process utilizing a pick-and-place robot to unpack bottles and place them on an processing line.

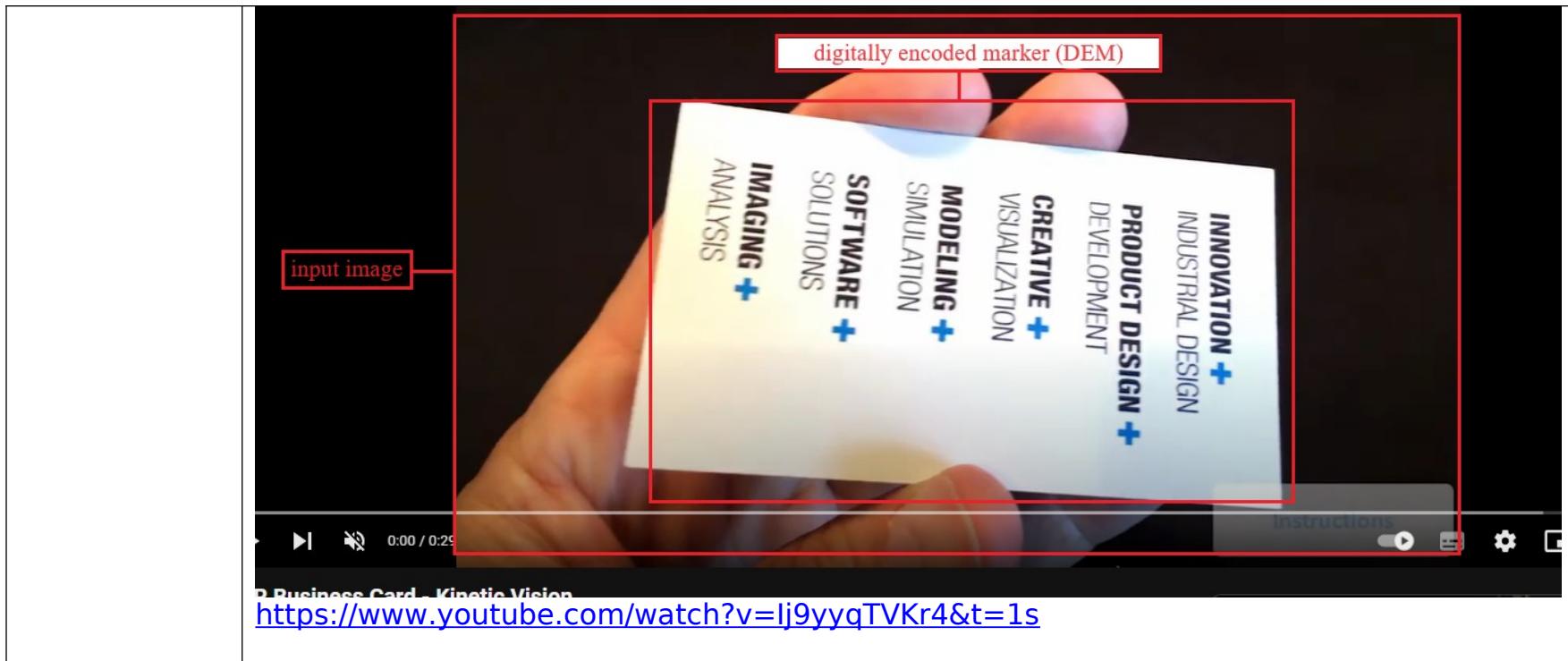
Interested in how your AR business card might work? Try it out for free with the [Kinetic Vision AR Experience app](#). Learn more about augmented reality at [Wikipedia](#).

<https://kinetic-vision.com/capabilities/ar-business-cards/>





https://www.youtube.com/watch?v=-Yj-keJ_KOY



	 <p>https://www.youtube.com/watch?v=lj9yyqTVKr4&t=1s</p>
<p>decoding data from the DEM by processing the input image, wherein the decoded data comprises at least one of geographic coordinate data and relative coordinate data;</p>	<p>The accused product practices decoding data (e.g., a position of the AR business card in the camera frame) from the DEM (e.g., an AR business card) by processing the input image (e.g., an input image of the physical environment captured by the camera of the user device), wherein the decoded data (e.g., a position of the AR business card in the camera frame) comprises at least one of geographic coordinate data and relative coordinate data (e.g., coordinates of the AR business card relative to the camera frame).</p> <p>As shown below, the Kinetic Vision AR Experience app allows tracking of an AR business card in the camera frame. Each business card can have multiple AR experiences encoded with it. Upon information and belief, the decoded data contains the relative coordinate of the business card as the overlayed augmented object moves with the business card within the camera frame.</p>

Expertise > **Interactive** > AR experience

Experience augmented reality on your own mobile device by downloading the Kinetic Vision AR Experience app from either the [Apple App Store](#) or [Google Play](#). It's free, has no ads, and doesn't require registration. Simply run the app and point the device camera at the target shown here, or download and print the targets.

The video below shows how the vehicles appear when running the app. A realistic experience is obtained from accurate target tracking and photorealistic real-time rendering.

<https://kinetic-vision.com/capabilities/ar-business-cards/>

Expertise > **Interactive** > AR business cards

Introducing AR Business Cards. The traditional business card hasn't changed much for hundreds of years, until now. Make your company, product or service stand out from the rest by powering them with three-dimensional objects, animations, video or combinations of all three. Instead of being tossed aside, your card will be alive with information, website links, and engaging experiences all targeted to do one thing: help you close the deal.

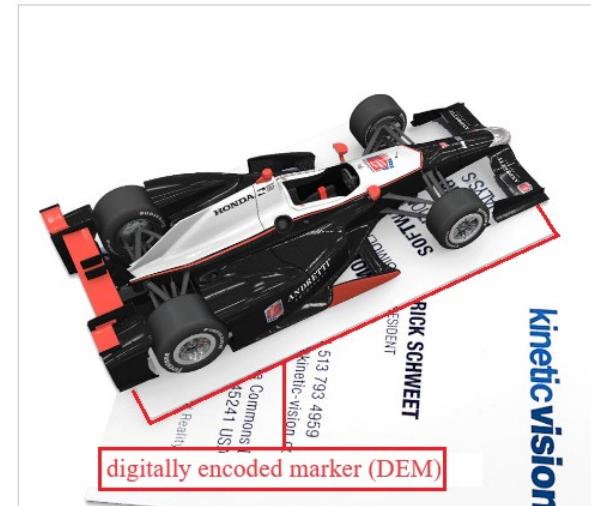
This video demonstrates how augmented reality can make your business card come alive with photorealistic three-dimensional representations of your product. One app can contain multiple targets and corresponding AR business card experiences. In the video below a race car and a passenger vehicle are shown as examples of static 3D augmented reality experiences. Below that is an example of an animated experience as it demonstrates a manufacturing process utilizing a pick-and-place robot to unpack bottles and place them on an processing line.

Interested in how your AR business card might work? Try it out for free with the [Kinetic Vision AR Experience app](#). Learn more about augmented reality at [Wikipedia](#).

<https://kinetic-vision.com/capabilities/ar-business-cards/>

Augmented Reality (AR) is one of the most popular and challenging fields in [computer vision](#) research. It allows supplementing the real world with some kind of digital content, for example, virtual 3D objects. The key feature of [Augment Reality](#) in comparison to other [image processing](#) tools is that virtual objects are moved and rotated in 3D coordinates instead of 2D image coordinates.

<https://www.it-jim.com/blog/augmented-reality-tracking-with-different-markers/>



kineticvision

The simplified scheme of the Augment Reality system is as follows

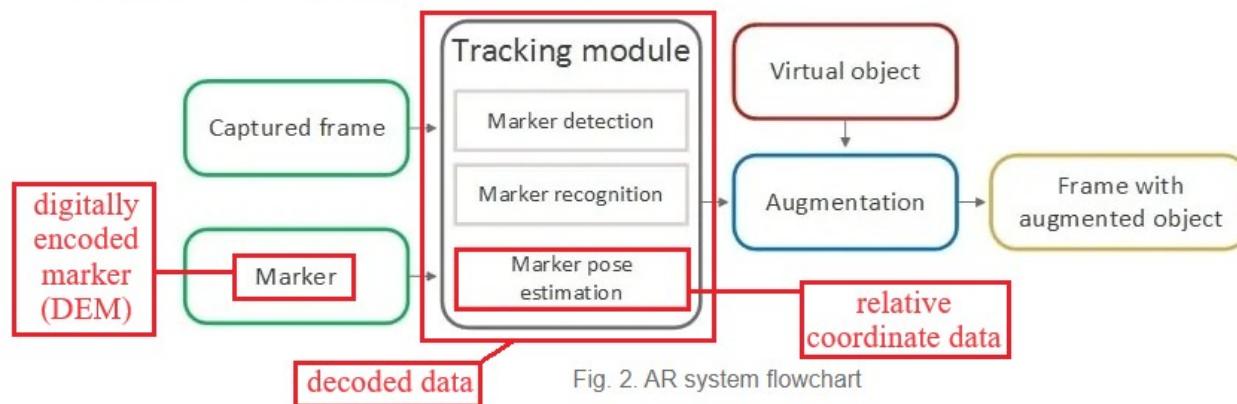
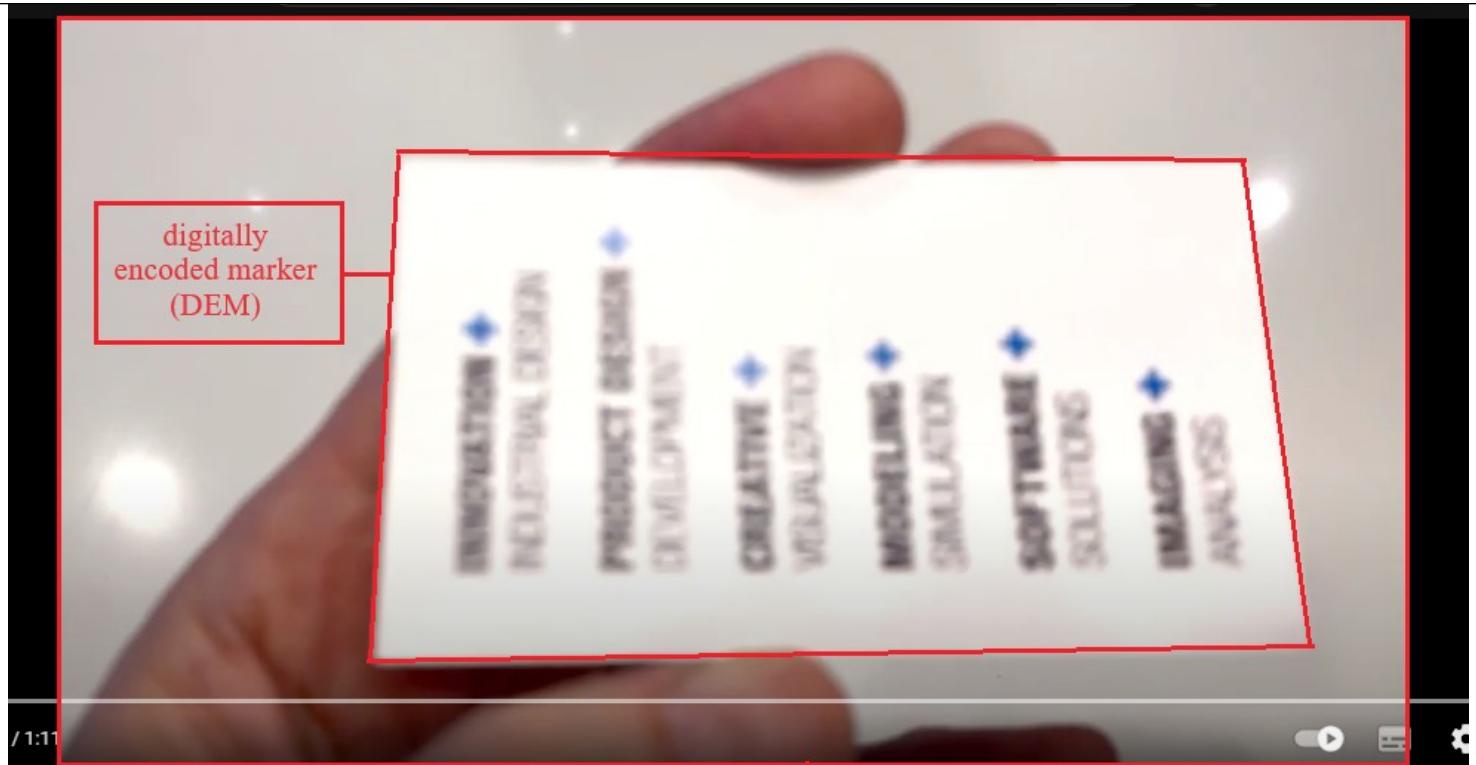


Fig. 2. AR system flowchart

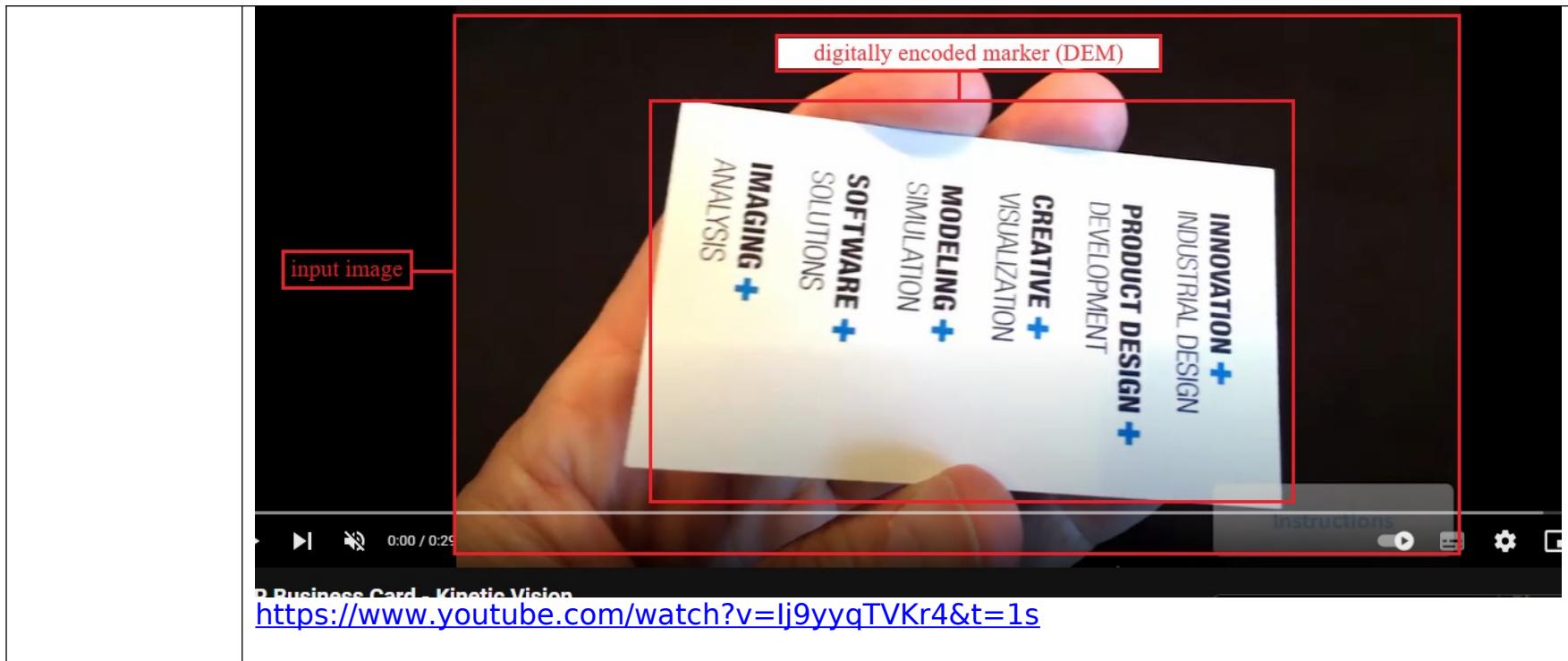
Let's consider AR system flowchart in details.

At first, we need to have the marker image and extract the consecutive camera frames. The tracking module in flowchart (Fig. 2) is the core of the augmented reality system. It calculates the relative pose of the camera based on correctly detected and recognized marker in the scene. The term "pose" means the six degrees of freedom (DOF) position, i.e. the 3D location and 3D orientation of an object. The tracking module enables the system to add virtual components as a part of the real scene. And since we're dealing with camera frames in 2D coordinates system, it is necessary to use the projective geometry for virtual 3D object augmentation.

<https://www.it-jim.com/blog/augmented-reality-tracking-with-different-markers/>



https://www.youtube.com/watch?v=-Yj-keJ_KOY



	<p>https://www.youtube.com/watch?v=lj9yyqTVKr4&t=1s</p> <p>https://www.youtube.com/watch?v=Ct-dNH3Ehf4</p>
retrieving	The accused product practices retrieving digital content (e.g., digital content such as a

digital content for a virtual object; and

digital file of a virtual object) for a virtual object (e.g., a virtual object such as a 3D object, animation, etc.).

As shown below, Kinetic Vision AR Experience can augment a virtual object over a real environment by retrieving the file of the virtual object.

Introducing AR Business Cards. The traditional business card hasn't changed much for hundreds of years, until now. Make your company, product or service stand out from the rest by powering them with three-dimensional objects, animations, video or combinations of all three. Instead of being tossed aside, your card will be alive with information, website links, and engaging experiences all targeted to do one thing: help you close the deal.

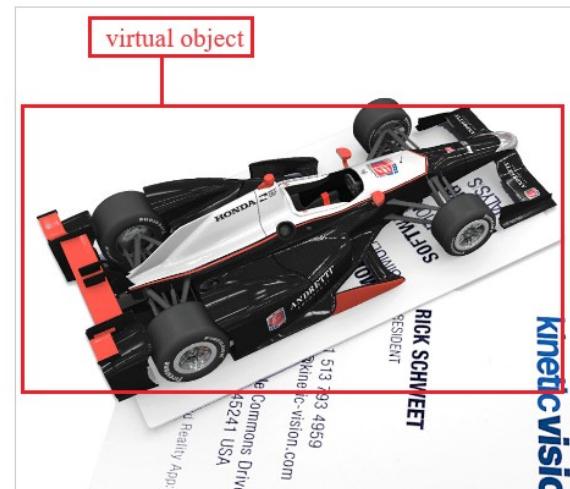
This video demonstrates how augmented reality can make your business card come alive with photorealistic three-dimensional representations of your product. One app can contain multiple targets and corresponding AR business card experiences. In the video below a race car and a passenger vehicle are shown as examples of static 3D augmented reality experiences. Below that is an example of an animated experience as it demonstrates a manufacturing process utilizing a pick-and-place robot to unpack bottles and place them on an processing line.

Interested in how your AR business card might work? Try it out for free with the [Kinetic Vision AR Experience app](#). Learn more about augmented reality at [Wikipedia](#).

<https://kinetic-vision.com/capabilities/ar-business-cards/>

Augmented Reality (AR) is one of the most popular and challenging fields in [computer vision](#) research. It allows supplementing the real world with some kind of digital content, for example, virtual 3D objects. The key feature of [Augment Reality](#) in comparison to other [image processing](#) tools is that virtual objects are moved and rotated in 3D coordinates instead of 2D image coordinates.

<https://www.it-jim.com/blog/augmented-reality-tracking-with-different-markers/>



The simplified scheme of the Augment Reality system is as follows

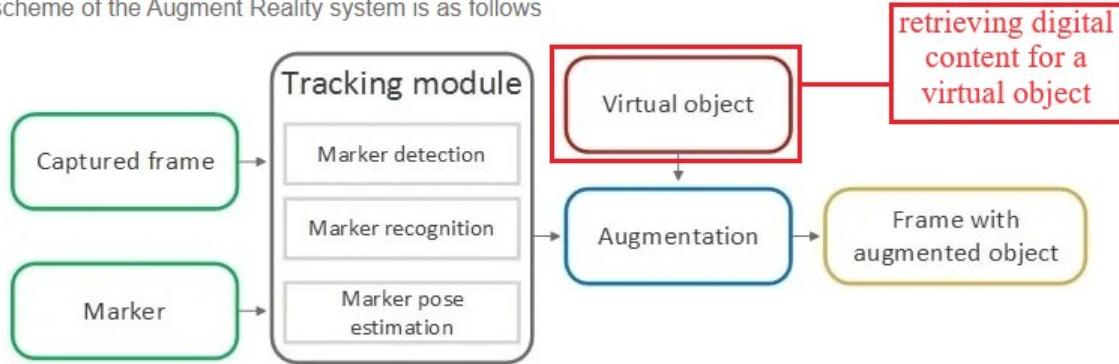
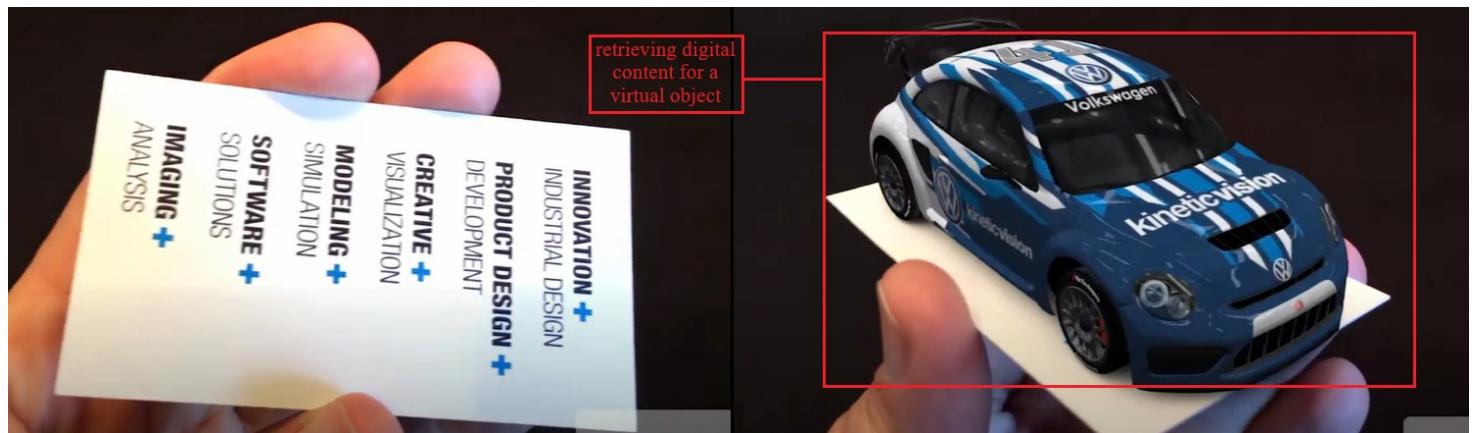


Fig. 2. AR system flowchart

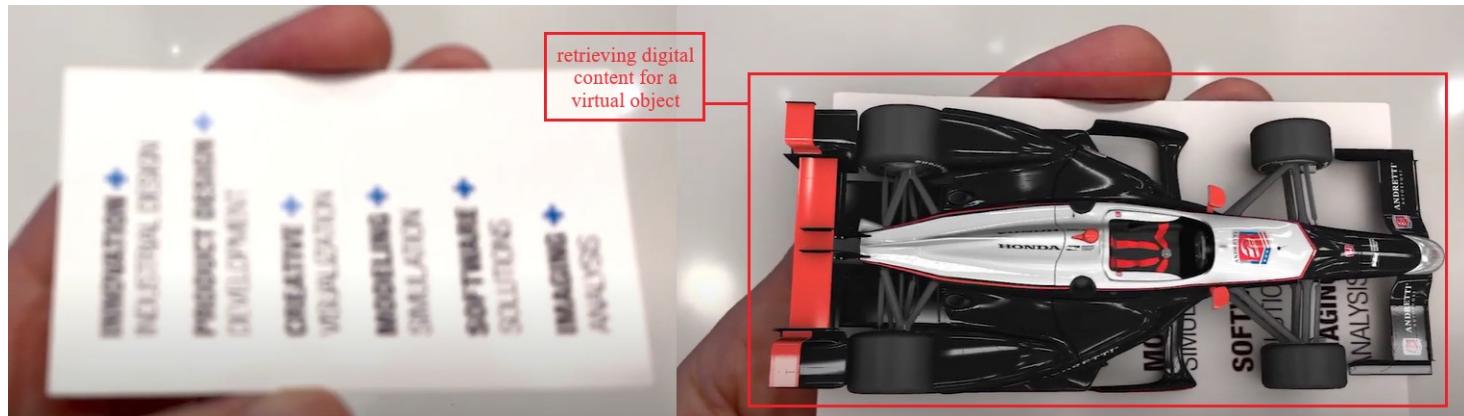
Let's consider AR system flowchart in details.

At first, we need to have the marker image and extract the consecutive camera frames. The tracking module in flowchart (Fig. 2) is the core of the augmented reality system. It calculates the relative pose of the camera based on correctly detected and recognized marker in the scene. The term "pose" means the six degrees of freedom (DOF) position, i.e. the 3D location and 3D orientation of an object. The tracking module enables the system to add virtual components as a part of the real scene. And since we're dealing with camera frames in 2D coordinates system, it is necessary to use the projective geometry for virtual 3D object augmentation.

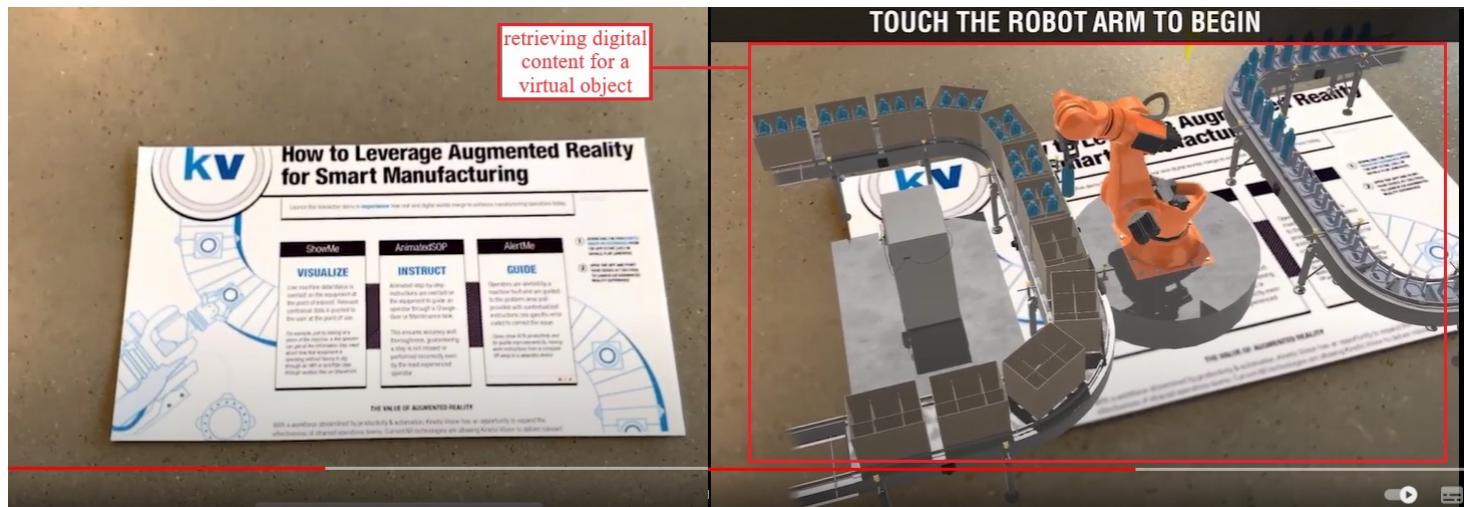
<https://www.it-jim.com/blog/augmented-reality-tracking-with-different-markers/>



<https://www.youtube.com/watch?v=Ij9yyqTVKr4&t=1s>



https://www.youtube.com/watch?v=-YJ-keJ_KQY



https://www.youtube.com/watch?v=-YJ-keJ_KQY

displaying an augmented

The accused product practices displaying an augmented reality image (e.g., an AR image with an overlay of a virtual object), on a display screen (e.g., a display of the mobile

reality image, on a display screen of the user device, including the input image and an overlay image representing the virtual object positioned within the augmented reality image based on the decoded data from the DEM and the marker location,

device) of the user device (e.g., a smartphone with Kinetic Vision AR experience app installed), including the input image (e.g., an input image of the physical environment captured by the camera of the user device) and an overlay image (e.g., an overlay image of the virtual object) representing the virtual object (e.g., virtual objects such as a 3D object, animation, etc.) positioned within the augmented reality image (e.g., an AR image with an overlay of a virtual object) based on the decoded data (e.g., position of the AR business card in the camera frame) from the DEM (e.g., AR business card) and the marker location (e.g., a location of the physically printed AR business card).

As shown below, the augmented image contains the camera feed as well as the virtual object which is overlayed on the AR business card. Upon information and belief, the coordinates of the AR business card are tracked to overlay a virtual object on the business card.

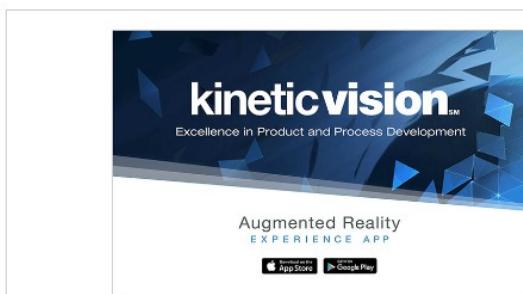
kinetic vision

About ▾ Expertise ▾ Alliances News Careers

Expertise > **Interactive** > AR experience

Experience augmented reality on your own mobile device by downloading the Kinetic Vision AR Experience app from either the [Apple App Store](#) or [Google Play](#). It's free, has no ads, and doesn't require registration. Simply run the app and point the device camera at the target shown here, or [download](#) and print the targets.

The video below shows how the vehicles appear when running the app. A realistic experience is obtained from accurate target tracking and photorealistic real-time rendering.



<https://kinetic-vision.com/capabilities/ar-business-cards/>

Introducing AR Business Cards. The traditional business card hasn't changed much for hundreds of years, until now. Make your company, product or service stand out from the rest by powering them with three-dimensional objects, animations, video or combinations of all three. Instead of being tossed aside, your card will be alive with information, website links, and engaging experiences all targeted to do one thing: help you close the deal.

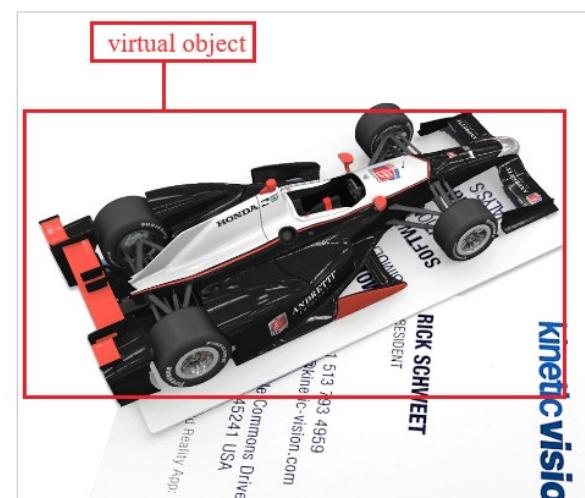
This video demonstrates how augmented reality can make your business card come alive with photorealistic three-dimensional representations of your product. One app can contain multiple targets and corresponding AR business card experiences. In the video below a race car and a passenger vehicle are shown as examples of static 3D augmented reality experiences. Below that is an example of an animated experience as it demonstrates a manufacturing process utilizing a pick-and-place robot to unpack bottles and place them on an processing line.

Interested in how your AR business card might work? Try it out for free with the [Kinetic Vision AR Experience app](#). Learn more about augmented reality at [Wikipedia](#).

<https://kinetic-vision.com/capabilities/ar-business-cards/>

Augmented Reality (AR) is one of the most popular and challenging fields in [computer vision](#) research. It allows supplementing the real world with some kind of digital content, for example, virtual 3D objects. The key feature of [Augment Reality](#) in comparison to other [image processing](#) tools is that virtual objects are moved and rotated in 3D coordinates instead of 2D image coordinates.

<https://www.it-jim.com/blog/augmented-reality-tracking-with-different-markers/>



kineticvision

The simplified scheme of the Augment Reality system is as follows

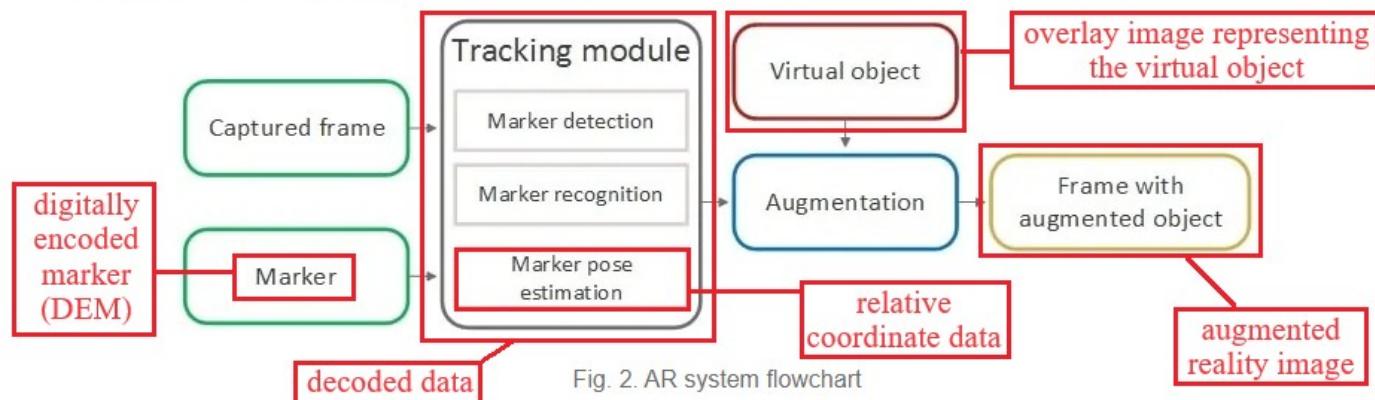
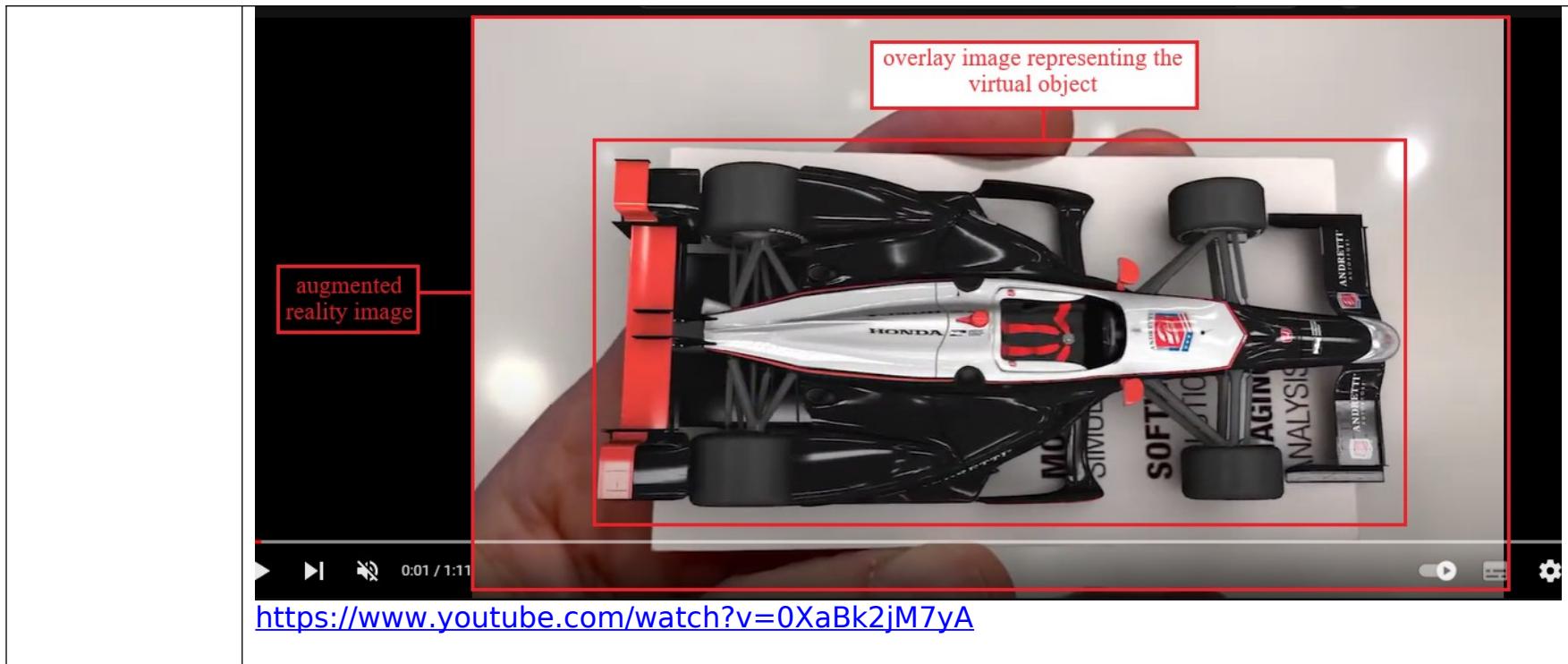


Fig. 2. AR system flowchart

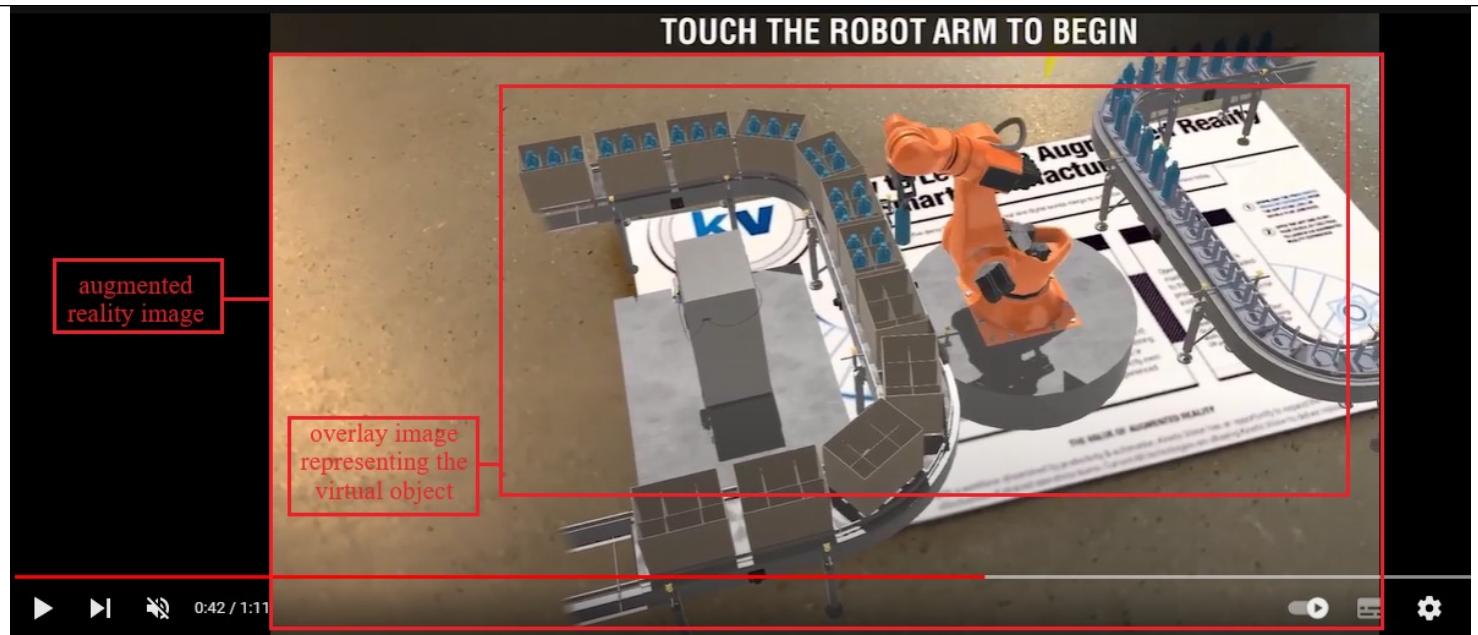
Let's consider AR system flowchart in details.

At first, we need to have the marker image and extract the consecutive camera frames. The tracking module in flowchart (Fig. 2) is the core of the augmented reality system. It calculates the relative pose of the camera based on correctly detected and recognized marker in the scene. The term "pose" means the six degrees of freedom (DOF) position, i.e. the 3D location and 3D orientation of an object. The tracking module enables the system to add virtual components as a part of the real scene. And since we're dealing with camera frames in 2D coordinates system, it is necessary to use the projective geometry for virtual 3D object augmentation.

<https://www.it-jim.com/blog/augmented-reality-tracking-with-different-markers/>







https://www.youtube.com/watch?v=-YJ-keJ_KQY

wherein the overlay image is positioned within the augmented reality image using the at least one of the geographic coordinate data and the relative coordinate

The accused product practices wherein the overlay image (e.g., an overlay image of the virtual object) is positioned within the augmented reality image (e.g., an AR image with an overlay of a virtual object) using the at least one of the geographic coordinate data and the relative coordinate data (e.g., coordinates of the AR business card relative to the camera frame) decoded from the DEM (e.g., an AR business card)

As shown below, virtual objects such as 3D objects, animation, etc. are overlaid on the AR business card. Upon information and belief, the coordinates of the AR business card are tracked to overlay the virtual object on the business card.

data decoded from the DEM.

kinetic vision

About ▾ Expertise ▾ Alliances News Careers

Expertise > **Interactive** > AR experience

Experience augmented reality on your own mobile device by downloading the [Kinetic Vision AR Experience app](#) from either the [Apple App Store](#) or [Google Play](#). It's free, has no ads, and doesn't require registration. Simply run the app and point the device camera at the target shown here, or [download](#) and print the targets.

The video below shows how the vehicles appear when running the app. A realistic experience is obtained from accurate target tracking and photorealistic real-time rendering.



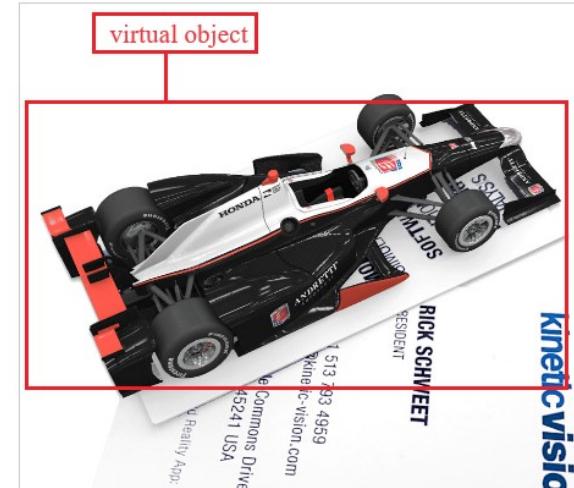
<https://kinetic-vision.com/capabilities/ar-business-cards/>

Introducing AR Business Cards. The traditional business card hasn't changed much for hundreds of years, until now. Make your company, product or service stand out from the rest by [powering them with three-dimensional objects, animations, video or combinations of all three](#). Instead of being tossed aside, your card will be alive with information, website links, and engaging experiences all targeted to do one thing: help you close the deal.

This video demonstrates how augmented reality can make your business card come alive with [photorealistic three-dimensional representations of your product](#). One app can [contain multiple targets and corresponding AR business card experiences](#). In the video below a race car and a passenger vehicle are shown as examples of static 3D augmented reality experiences. Below that is an example of an animated experience as it demonstrates a manufacturing process utilizing a pick-and-place robot to unpack bottles and place them on an processing line.

Interested in how your AR business card might work? Try it out for free with the [Kinetic Vision AR Experience app](#). Learn more about augmented reality at [Wikipedia](#).

<https://kinetic-vision.com/capabilities/ar-business-cards/>



Augmented Reality (AR) is one of the most popular and challenging fields in [computer vision](#) research. It allows supplementing the real world with some kind of digital content, for example, virtual 3D objects. The key feature of [Augment Reality](#) in comparison to other image processing tools is that virtual objects are moved and rotated in 3D coordinates instead of 2D image coordinates.

<https://www.it-jim.com/blog/augmented-reality-tracking-with-different-markers/>

The simplified scheme of the [Augment Reality system](#) is as follows

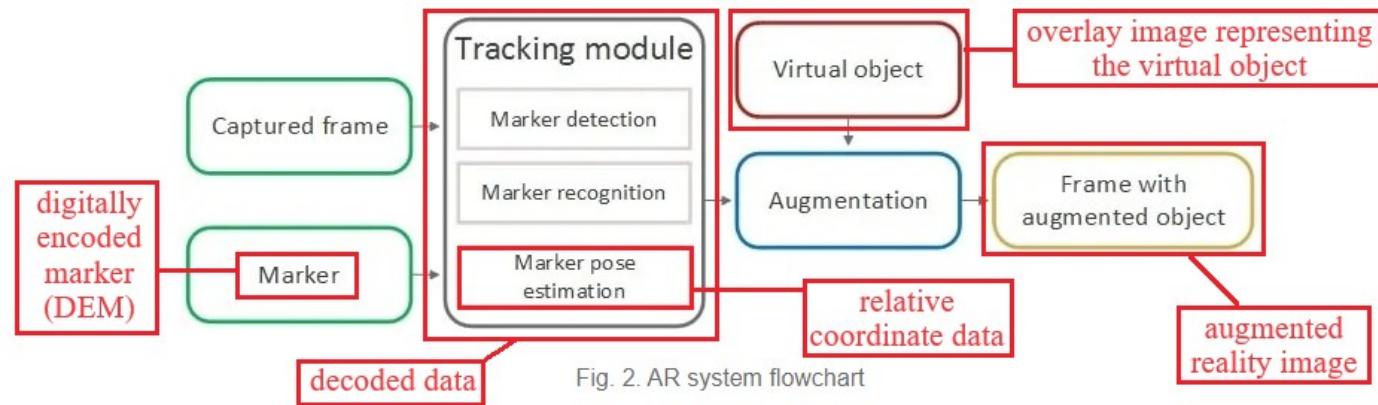


Fig. 2. AR system flowchart

Let's consider AR system flowchart in details.

At first, we need to have the marker image and extract the consecutive camera frames. The [tracking module](#) in flowchart (Fig. 2) is the core of the augmented reality system. It calculates the relative pose of the camera based on correctly detected and recognized marker in the scene. The term "pose" means the six degrees of freedom (DOF) position, i.e. the 3D location and 3D orientation of an object. The tracking module enables the system to add virtual components as a part of the real scene. And since we're dealing with camera frames in 2D coordinates system, it is necessary to use the projective geometry for virtual 3D object augmentation.

<https://www.it-jim.com/blog/augmented-reality-tracking-with-different-markers/>

